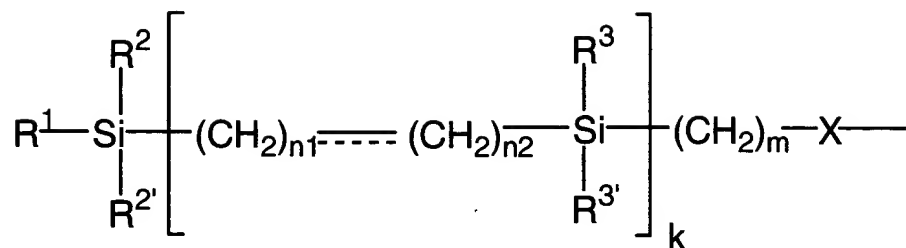


where D is:



where:

$R^1$  is an alkyl or alkenyl group having  $j$  carbon atoms and  $R^2$ ,  $R^{2'}$ ,  $R^3$  and  $R^{3'}$ , independently of one another, are alkyl groups having from 1-6 carbon atoms;

$n1$  and  $m$  are integers from 1 to about 20;

$n2$  can be zero or an integer from 1 to 20 where the dashed line indicates a possible double or triple bond;

$k$  is 0 or an integer from 1 to 10;

$X$  is oxygen or a single bond; and

$j$  is an integer from 1 to 18;

B,  
cont.

and

wherein  $a$ ,  $b$ ,  $x$ ,  $y$ ,  $z$  can be 0 or 1 ;  $x + y + z$  is 1, 2 or 3, when  $x$  is 0,  $a$  is 0; when  $z$  is 0,  $b$  is 0;

$A$  and  $B$ , independently, when present, can be  $-O-$ ,  $-COO-$ ,  $-OOC-$ ,  $-CH_2-CH_2-$ ,  $-CH=CH-$ ,  $-C\equiv C-$ ,  $-CH=CH-CH=CH-$ ,  $-O-CH_2-$  or  $-CH_2-O$ ;

the  $A$ ,  $B$  and  $C$  rings, independently of one another, are aromatic rings or alicyclic rings, where one or two carbons in the  $A$ ,  $B$  or  $C$  rings that are aromatic can be replaced with a  $N$ ,  $O$  or  $S$  and one or two of the carbons in the  $A$ ,  $B$  or  $C$  rings that are alicyclic can be replaced with a  $N$ ,  $O$  or  $S$  or a  $C=O$  group; provided that the  $A$ ,  $B$  or  $C$  rings are not a 3,4-difluoropyridine ring;

$Y$  can represent up to four substituents on aromatic rings and up to 10 substituents on an alicyclic ring where  $Y$  can a halogen,  $CN$  group,  $NO_2$ , alkyl or alkoxy;

B<sub>1</sub>  
cont

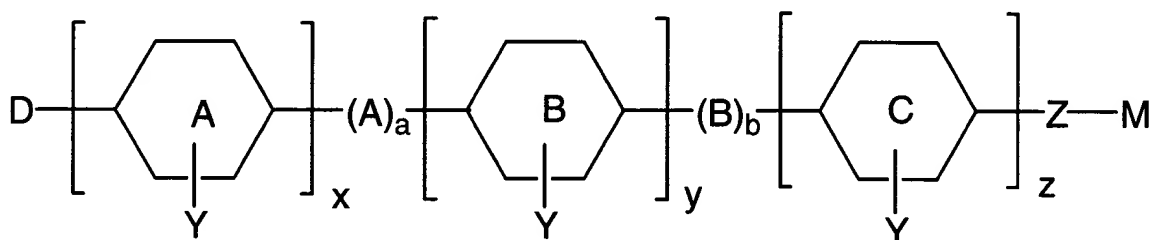
Z is a single bond, an -O- or a -COO- or -OOC- group, and

M is a tail group which can be:

a non-fluorinated alkyl, or ether group or R<sup>F</sup>,

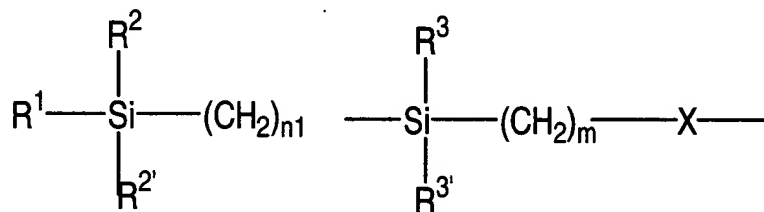
where R<sup>F</sup> is an alkyl, or ether group which is fully or partially fluorinated.

11. (Once amended) A liquid crystal composition comprising one or more compounds of formula:



where D is:

B<sub>2</sub>



where:

R<sup>1</sup> is an alkyl or alkenyl group having j carbon atoms and R<sup>2</sup>, R<sup>2'</sup>, R<sup>3</sup> and R<sup>3'</sup>, independently of one another, are alkyl groups having from 1-6 carbon atoms;

n<sub>1</sub> and m are integers from 1 to about 20;

X is oxygen or a single bond; and

j is an integer from 1 to 18;

and

wherein a, b, x, y, z can be 0 or 1 ;  $x + y + z$  is 1, 2 or 3, when x is 0, a is 0; when z is 0, b is 0;

A and B, independently, when present, can be -O-, -COO-, -OOC-, -CH<sub>2</sub>-CH<sub>2</sub>-, -CH=CH-, -C≡C-, -CH=CH-CH=CH-, -O-CH<sub>2</sub>- or -CH<sub>2</sub>-O;

the A, B and C rings, independently of one another, are aromatic rings or alicyclic rings, where one or two carbons in the A, B or C rings that are aromatic can be replaced with a N, O or S and one or two of the carbons in the A, B or C rings that are alicyclic can be replaced with a N, O or S or a C=O group; provided that the A, B or C rings are not a 3,4-difluoropyridine ring;

Y can represent up to four substituents on aromatic rings and up to 10 substituents on an alicyclic ring where Y can be a halogen, CN group, NO<sub>2</sub>, alkyl or alkoxy;

Z is a single bond, an -O- or a -COO- or -OOC- group, and

M is a tail group which can be:

a non-fluorinated alkyl, or ether group or R<sup>F</sup>,

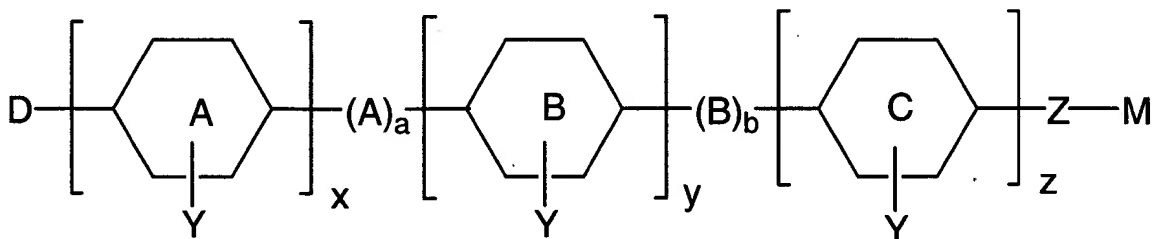
where R<sup>F</sup> is an alkyl, or ether group which is fully or partially fluorinated.

15. (Once amended) The LC composition of claim 14 wherein R<sup>F</sup> is:

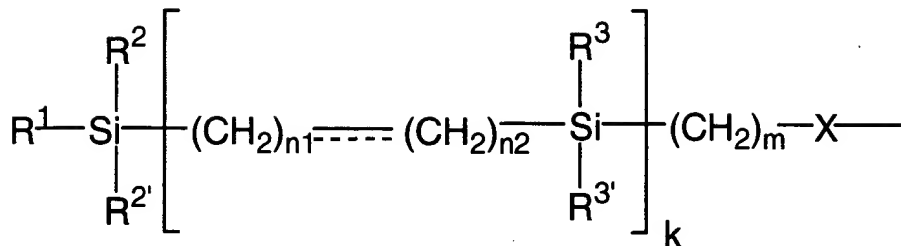


where h is 0 or an integer ranging from 1 to 10, inclusive, p, q, r, s, t, and u are 0 or integers ranging from 1 to about 20, inclusive and where  $p + q + r + s + h(t + u)$  is equal to about 20, inclusive, where W is a hydrogen or fluorine.

37. (Once amended) A LC compound having the formula:



where D is:



where:

$R^1$  is an alkyl or alkenyl group having  $j$  carbon atoms and  $R^2$ ,  $R^{2'}$ ,  $R^3$  and  $R^{3'}$ , independently of one another, are alkyl groups having from 1-6 carbon atoms;  $n1$  and  $m$  are integers from 1 to about 20;  $n2$  can be zero or an integer from 1 to 20 where the dashed line indicates a possible double or triple bond;  $k$  is 0 or an integer from 1 to 10;  $X$  is oxygen or a single bond; and  $j$  is an integer from 1 to 18;

and

wherein  $a$ ,  $b$ ,  $x$ ,  $y$ ,  $z$  can be 0 or 1;  $x + y + z$  is 1, 2 or 3, when  $x$  is 0,  $a$  is 0; when  $z$  is 0,  $b$  is 0;

$A$  and  $B$ , independently, when present, can be  $-O-$ ,  $-COO-$ ,  $-OOC-$ ,  $-CH_2-CH_2-$ ,  $-CH=CH-$ ,  $-C \equiv C-$ ,  $-CH=CH-CH=CH-$ ,  $-O-CH_2-$  or  $-CH_2-O$ ;

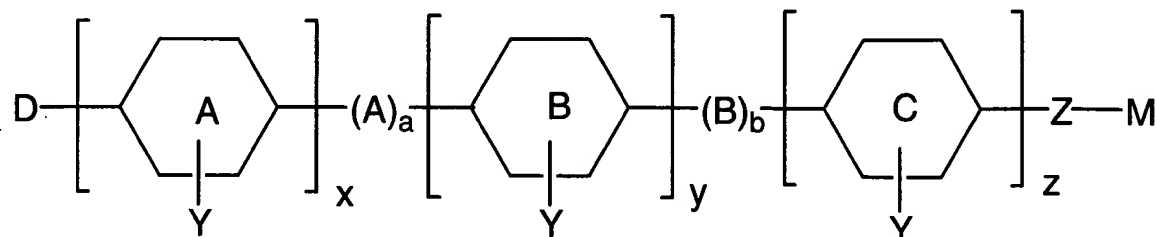
the  $A$ ,  $B$  and  $C$  rings, independently of one another, are aromatic rings or alicyclic rings, where one or two carbons in the  $A$ ,  $B$  or  $C$  rings that are aromatic can be replaced with a  $N$ ,  $O$  or  $S$  and one or two of the carbons in the  $A$ ,  $B$  or  $C$  rings that are alicyclic can be replaced with a  $N$ ,  $O$  or  $S$  or a  $C=O$  group; provided that the  $A$ ,  $B$  or  $C$  rings are not a 3,4-difluoropyridine ring;

$Y$  can represent up to four substituents on aromatic rings and up to 10 substituents on an alicyclic ring where  $Y$  can be a halogen,  $CN$  group,  $NO_2$ , alkyl or alkoxy;

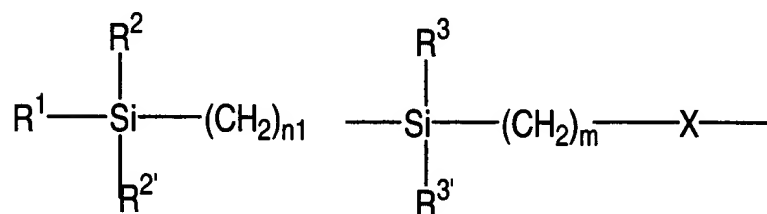
$Z$  is a single bond, an  $-O-$  or a  $-COO-$  or  $-OOC-$  group, and

$M$  is  $R^F$ , where  $R^F$  is a straight-chain or branched alkyl or ether group which is fully or partially fluorinated and contains up to 20 carbon atoms.

39. (Once amended) A LC compound having the formula:



where D is:



where:

*B5*

$R^1$  is an alkyl or alkenyl group having  $j$  carbon atoms and  $R^2$ ,  $R^{2'}$ ,  $R^3$  and  $R^{3'}$ , independently of one another, are alkyl groups having from 1-6 carbon atoms;  $n1$  and  $m$  are integers from 1 to about 20;  $X$  is oxygen or a single bond; and  $j$  is an integer from 1 to 18;

and

wherein  $a$ ,  $b$ ,  $x$ ,  $y$ ,  $z$  can be 0 or 1;  $x + y + z$  is 1, 2 or 3, when  $x$  is 0,  $a$  is 0; when  $z$  is 0,  $b$  is 0;

$A$  and  $B$ , independently, when present, can be  $-O-$ ,  $-COO-$ ,  $-OOC-$ ,  $-CH_2-CH_2-$ ,  $-CH=CH-$ ,  $-C\equiv C-$ ,  $-CH=CH-CH=CH-$ ,  $-O-CH_2-$  or  $-CH_2-O$ ;

the  $A$ ,  $B$  and  $C$  rings, independently of one another, are aromatic rings or alicyclic rings, where one or two carbons in the  $A$ ,  $B$  or  $C$  rings that are aromatic can be replaced with a  $N$ ,  $O$  or  $S$  and one or two of the carbons in the  $A$ ,  $B$  or  $C$  rings that are alicyclic can be replaced with a  $N$ ,  $O$  or  $S$  or a  $C=O$  group; provided that the  $A$ ,  $B$  or  $C$  rings are not a 3,4-difluoropyridine ring;

Y can represent up to four substituents on aromatic rings and up to 10 substituents on an alicyclic ring where Y can a halogen, CN group, NO<sub>2</sub>, alkyl or alkoxy; Z is a single bond, an -O- or a -COO- or -OOC- group, and M is R<sup>F</sup>, where R<sup>F</sup> is a straight-chain or branched alkyl or ether group which is fully or partially fluorinated and contains up to 20 carbon atoms.

---

B5  
cont.